C4I Evolutionary Trends

Presentation to
Ninth Annual
Special Operations/Low Intensity Conflict
(SO/LIC)
Symposium and Exhibition

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13. ABSTRACT ***(Maximum 200 Words)***

This briefing focuses on the Evolutionary Trends in the C4I area. It was developed for the Special Operations/Low Intensity Conflict (SO/LIC) Symposium and Exhibition. It discusses the Basic command and control cycle, the functional C2 processes, the increased integration and simultaneity given the current trends in C4I, it discusses what now is different because of the trends in C4I and how this has resulted in better battlespace visualization. This has resulted in what is termed information-enabled organizations, this causes these organizations to become adaptive decision making teams. This leads to increases in effectiveness and efficiency.

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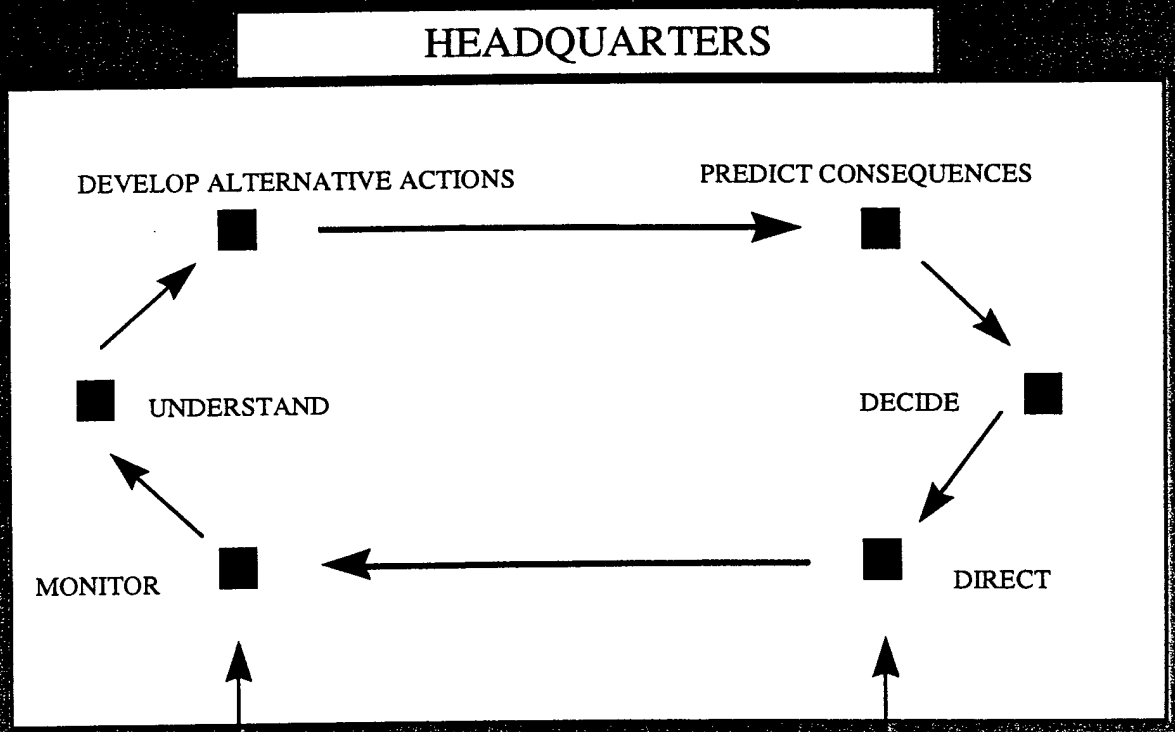
Basic Command and Control Cycle



ENVIRONMENT:
- OWN & ENEMY FORCES
- PHYSICAL
- POLITICAL & ECONOMIC

QUERY
INFORM

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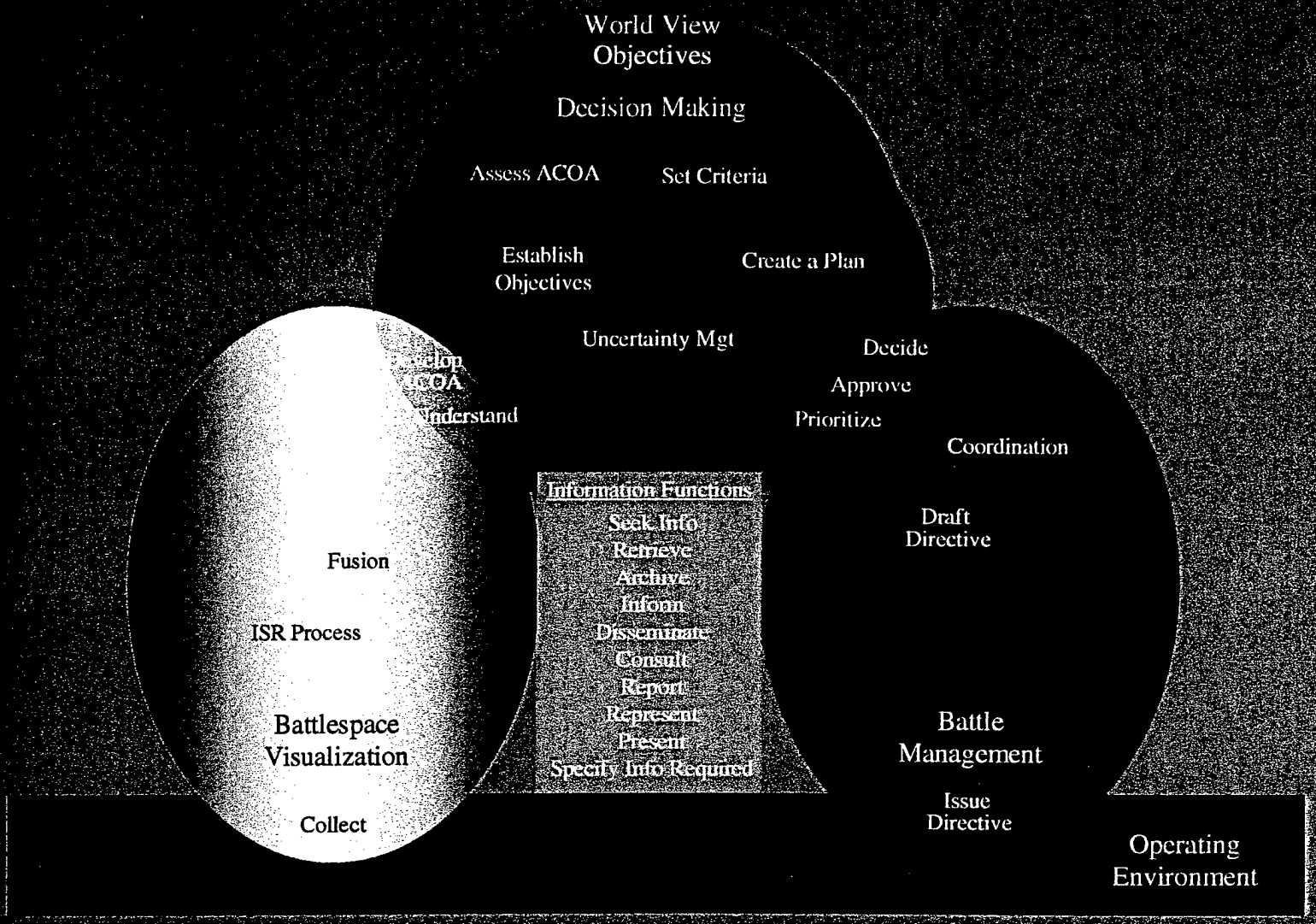
Generic Functional C2 Processes



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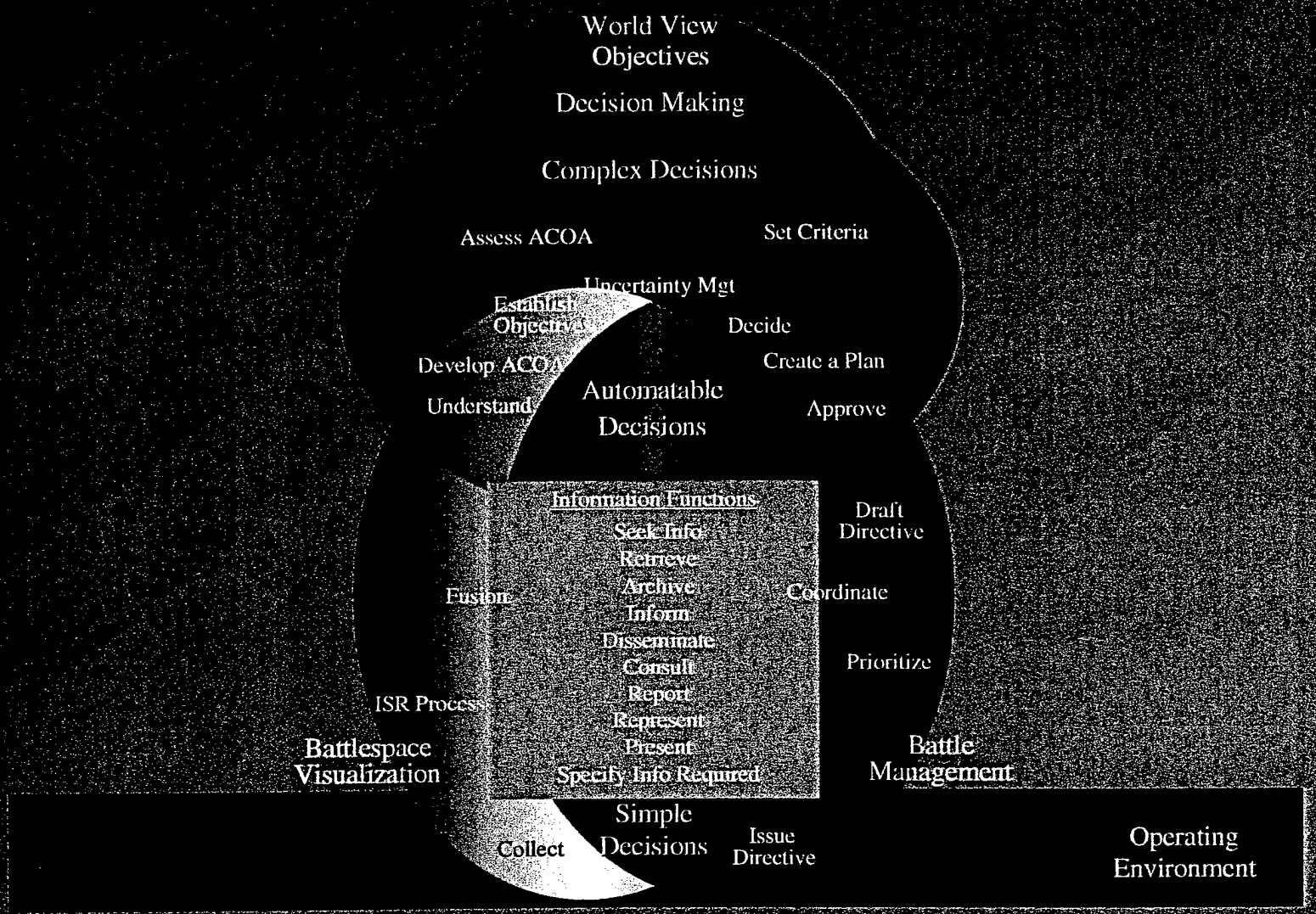
Increased Integration & Simultaneity



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What's Different?

- Better Battlespace Visualization
- Information Enabled Organizations
- Adaptive Decision Making
- Agile Battle Management
- Significant Increase in Force Effectiveness and Efficiency

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Better Battlespace Visualization

- More complete, current and consistent
- More comprehensible
- Flexible retrieval and presentation (pan, zoom, associate)
- Future explicitly considered
- More explicit management of uncertainty

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Information Enabled Organizations

- Virtual teams
- More integrated across function, level of command, and time
- More agile organizations
- More distributed information and processes
- Improved organizational learning

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Adaptive Decision Making

- Context driven decision processes
- Imbedded, predictive decision support
- Rapid plan/re-plan capability
- Contingency rich COA analyses and plans

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Increases in Effectiveness and Efficiency

- Seize and maintain the initiative
  - Shape the battlespace
  - Phase the campaign
  - Control the pace of the battle
- Kill the right targets
  - Less lethal battle space and less collateral damage
  - Shorter duration
  - Increased adversary "Shock and Awe"
- Concentration of fires replaces concentration of mass
- More efficient use of communications and logistics systems
- Traditional battle outcome measures (e.g. kill to loss ratios, territory conquered, mission accomplishment)

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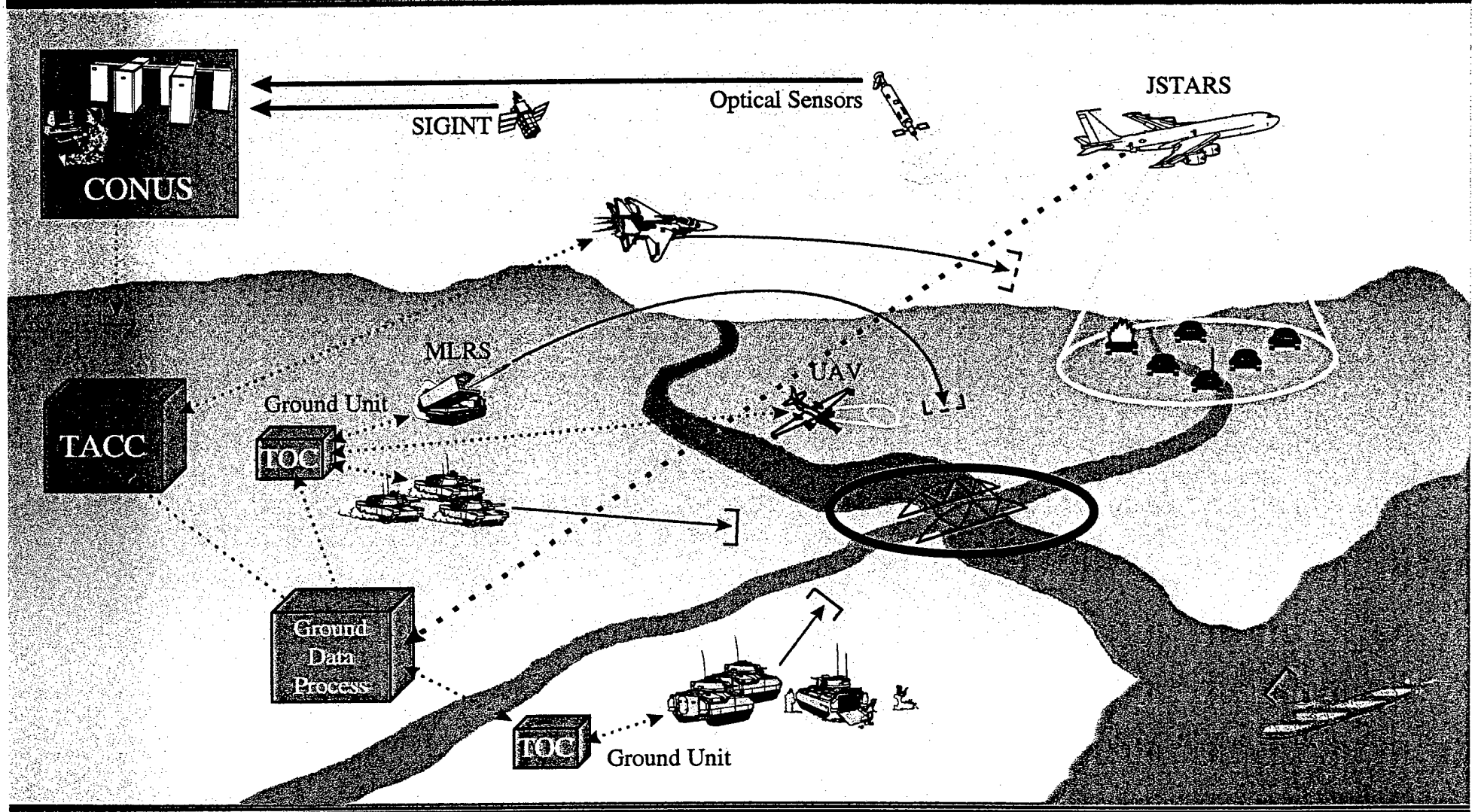
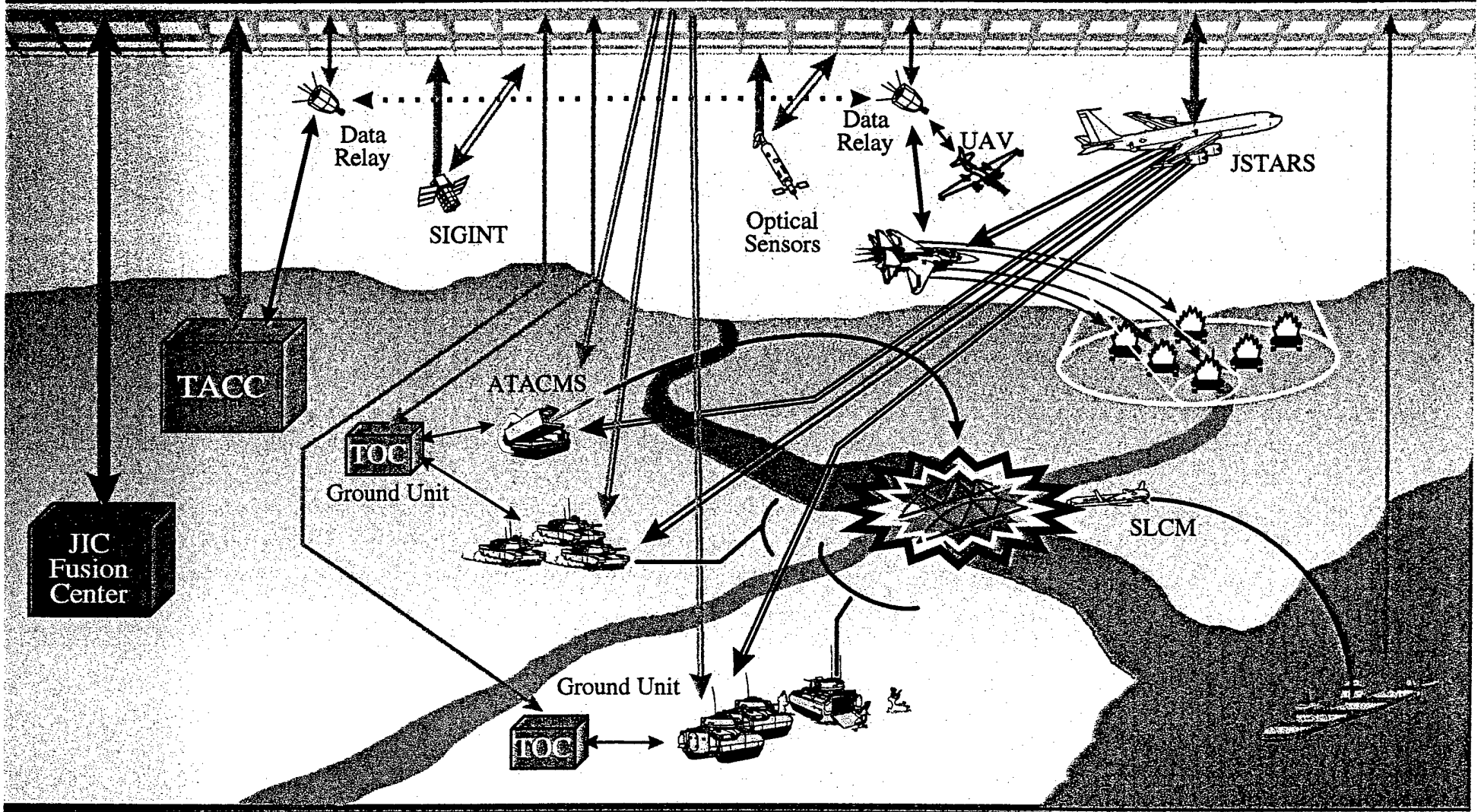

CONUS
SIGINT
Optical Sensors
JSTARS
MLRS
UAV
Ground Unit
TACC
TOC
Ground Data Process
TOC
Ground Unit
Primary Info Link
Single String Info Link
Possibly Available
JSTARS Data
Weapons Employment
Too Late for Tactical

2010


Data Relay
SIGINT
Data Relay
UAV
JSTARS
Optical Sensors
TACC
ATACMS
TOC
Ground Unit
JIC Fusion Center
SLCM
Ground Unit
TOC
Primary Info Link
Backup Info Link
Single String Info Link
Weapons Employment
JTF Network
Direct Link